

### REMARKS

Claims 1 and 5-18 are pending in this application. Claims 2-4 were previously canceled. Claims 1, 5, 6, and 7 have been amended and claims 12-18 have been added herein.

Independent claims 5 and 6 and dependent claims 7 and 9-11 were rejected under 35 U.S.C. 102(b) as being anticipated by Allison. However, claim 1 has been amended such that it now includes limitations nowhere even suggested, much less taught by the Allison reference. These differences are similar to the difference in independent claims 5 and 6 discussed in detail below.

With respect to claim 5, the Examiner has substantially ignored various portions of the claim language to justify a rejection under 35 U.S.C. 102(b). In addition, it is respectfully submitted that the citations to columns and lines provided by the Examiner appear to be completely mixed up and in error. Applicant's attorney has attempted to correlate the given column and line citations with the Examiner's argument, but has been unsuccessful in doing so. Therefore, the Examiner's arguments have been evaluated against all of the columns and lines of the Allison reference as though there were no citations to column numbers and line numbers at all. Even so, the Examiner's allegations are still simply incorrect.

More specifically, the Examiner alleges that Allison describes a single crystal semiconductor body comprising a trench formed in the semiconductor body "having sidewall portions being disposed in different crystallographic planes". That is simply not true. Nowhere does Allison disclose a single trench having first *sidewall* portions that lie in one crystallographic plane and second *sidewall* portions that lie in another crystallographic plane. Allison does mention that the substrate *top surface* and the *bottom surface* of the trenches are oriented in a plane (e.g. plane <100>) and that the trench sidewalls are aligned along another (single) plane

2004 P 51343 US

Page 6 of 8

(either plane  $\langle 111 \rangle$  *or* plane  $\langle 110 \rangle$ -not both). The top surface of the substrate and the bottom surface of the trench, however, *are not* sidewalls of the trench. The distinction is clear in both the Allison reference and the present application.

It is true that the embodiments associated with FIGs. 1-9 of Allison disclose trench sidewalls that lie along the  $\langle 111 \rangle$  crystallographic plane and that FIGs. 10-13 disclose trench walls that lie along the  $\langle 110 \rangle$  crystallographic plane. However, the trench walls lie in only one plane. Either the  $\langle 111 \rangle$  plane *or* the  $\langle 110 \rangle$  plane. There is no teaching that a single trench has a portion of the sidewalls that lie in a first crystallographic plane and a second portion of the sidewalls that lie in a different crystallographic plane as required by independent claims 1, 5 and 6.

Therefore, since there is no discussion whatsoever about a single trench having different portions of the trench *sidewalls* in two (or more) different crystallographic planes, there certainly cannot be a disclosure that a layer of silicon dioxide is grown to a first thickness at a first growth rate on first portions of the sidewalls that lie in a first crystallographic plane during the thermal oxidation process, and that the layer is also grown at a second and slower rate on second sidewall portions of the trench that lie in a second crystallographic plane as also required by the independent claim. Consequently, it is a further impossibility that there is a disclosure or teaching that the thickness of the silicon dioxide on the second sidewall portions is substantially equal to the combined thicknesses of both the first and second silicon dioxide layers on the first sidewall portion. Therefore, it is respectfully submitted that independent claims 1 and 5 and all claims dependent therefrom do patentability define over the Allison reference and are allowable.

Claim 6 includes all of the limitation of claim 5 and further includes the limitations of a thin layer of material (silicon nitride) on the portion of the trench sidewalls that lie along the first

crystallographic plane, and that the combined thickness of the silicon nitride and layer of silicon dioxide on the first plane is substantially equal to the thickness of the silicon dioxide alone that lies along the other crystallographic plane.

Therefore, independent claim 6 and all claims that depend therefrom are also believed allowable for all of the reasons discussed above as well as for these additional limitations.

In view of the above, Applicant respectfully submits that the application is in condition for allowance and requests that the Examiner pass the case to issuance. If the Examiner should have any questions, Applicant requests that the Examiner contact Applicant's attorney at 972-732-1001 so that such issues may be resolved as expeditiously as possible. No fee is believed due in connection with this filing. However, should one be deemed due, the Commissioner is hereby authorized to charge the appropriate fees to Deposit Account No. 50-1065.

Respectfully submitted,

5 November 2005  
Date

Slater & Matsil, L.L.P.  
17950 Preston Rd., Suite 1000  
Dallas, Texas 75252-5793  
Tel. 972-732-1001  
Fax: 972-732-9218

James C. Kesterson  
James C. Kesterson  
Attorney for Applicant  
Reg. No. 25,882